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HUNGARIAN RAILROAD ROLLING STOCK, TRACTORS, MACHINES EXHIBITED AT LEIPZIG FAIR

One of the most impressive exhibits at this year's Leipzig Fair was that of the Hungarian motor vehicle and machine industry.

In the field of Hungarian locomotive manufacture, the new high-speed steam passenger locomotives delivered this year to the Hungarian State Railroads are particularly noteworthy. This machine, both in dimensions and form, represents the highest accomplishment. Although the locomotive is 10.6 meters long, the comparatively short fixed wheel base of 4,500 millimeters assures good running qualities. Even at the highest permissible speed of 120 kilometers per hour, the machine runs with perfect smoothness. The wide boiler is placed above the frame and drawn toward the rear. Due to the fact that the quantity of coal which must be fired on the grate, which has an area of 5.5 square meters, is more than one fireman can normally handle, the locomotive has been equipped with the automatic "Standard-Stoker." The two-cylinder steam engine has a Heusinger control system. The locomotive is equipped with a Knorr air brake and an auxiliary brake. The engineer's cab is fully enclosed and has large windows which assure a good view of the track.

The five-axle tender, as well as the locomotivepilot and trailing wheels, are equipped with the time-tested oil-lubricated MAVAG equitemperature journals. In order to provide adequately for supplying the high-performance boiler, which has an operating pressure of 18 atmospheres and 240 square meters of steam-producing heating surface, the tender was designed to carry 33 cubic meters of water and 13 tons of coal. The drawbar pull of the locomotive is 11,500 kilograms per minute.

Another model which should be mentioned is an older type twin steam locomotive with built-in tender with a 2-F-2 axle [4-12-4 wheel] arrangement, Series 375, which is now in serial production. This model is one of the most successful light passenger and freight locomotives for branch lines and industrial railroads. In spite of its low axle load, it has good tractive qualities, and therefore is the favorite small locomotive for trains of from 800 to 1,000 tons on level or nearly level track. Its highest permissible speed is 75 kilometers per hour.

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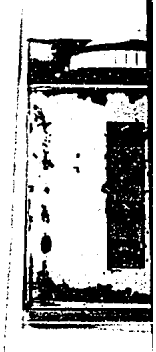

Another type of locomotive in large-scale serial production for export is the freight steam locomotive with five coupled driving axles and no pilot or trailing axle /wheel arrangement 0-10-0/.

In addition to steam locomotives for wide, standard, and narrow gauge, the program of the Hungarian locomotive construction industry also includes electric locomotives of the Ganz-Kando type as well as diesel and diesel-electric locomotives.

Railway Cars

The Hungarian railroad car building industry has achieved further progress in the last few years. The standard-gauge cars mentioned below give a summary picture of the productive capacity of the Gyori Vagon-es Gepgyar (Gyor Railroad Car and Machine Factory) /now Wilhelm Pieck Muvek (Works)/.

A four-axle car for transporting mail, baggage, and perishable goods is equipped with Sheffield-Twinberrow swivel trucks and roller bearings. This car has a coupling arrangement with rubber draft gear and through drawbars. The buffers also have rubber shock absorbers. Braking is performed by means of a vacuum brake and a hand brake. The body of the car is made of welded steel.

A four-axle third-class passenger car, Type GAK, has welded swivel trucks with SKF roller bearings. Braking is performed by means of a Hildebrand-Knorr air brake, Type HlKp 1, as well as by a hand brake. The interior of the car is divided into a vestibule, a passenger section with 32 seats, three compartments of eight seats each, a second section with 32 seats, a toilet, and a second vestibule. As a result, this third-class car has 88 seats. To insulate the roof against heat and cold, "Alfol" insulation, consisting of multiple aluminum foil, was used. The interior surfaces of the plywood walls have varnished oak surfaces.

Also worthy of mention are the four-axle sleeping cars for first, second, and third class and the four-axle all-steel dining cars.

Tractors

In addition to railway rolling stock, Hungarian tractors were also exhibited at the fair.

There is certainly no other type of tractor, in the motor of which so many different fuels can be used, as the Hungarian Hofherr tractor. The two-cycle motor operates with gasoline, and also with petroleum, gas oil, crude oil, or tar oil, consumption being unusually economical. A noteworthy major advantage of the Hofherr tractor is the fact that the power take-off pulley is attached directly to the main driveshaft, permitting the motor to transmit its power without any transmission gear, that is, without loss. It should be emphasized that the machine may be started even in the coldest weather without any special auxiliary devices.

Drilling Machines and Deep Drilling Equipment

In the field of heavy radial drilling machines, the newest radial drilling machine of the Rakosi Matyas Muvek (Matyas Rakosi Works) should be mentioned.

The main data of this machine, Type RF-5, are:

Extension	3,040 millimeters
Drilling efficiency in steel	80 millimeters

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Columnar diameter	600 millimeters ϕ
21 drill speeds	from 15 to 1,200 revolutions per minute
18 feed speeds	from 0.037 to 2.0 millimeters per revolution
Power of drill motor	12 horsepower
Power of thrust motor	4 horsepower
Weight	14,000 kilograms

Another outstanding piece of Hungarian equipment is the MKH 18 wire-drawing machine. In a 10-hour test the following output was achieved with this machine:

Wire with 0.04 millimeter diameter	6 - 7 kilograms
Wire with 0.05 millimeter diameter	10 - 12 kilograms
Wire with 0.06 millimeter diameter	15 - 18 kilograms
Wire with 0.08 millimeter diameter	25 - 30 kilograms
Wire with 0.1 millimeter diameter	40 - 60 kilograms

It may be mentioned in this connection that one kilogram of wire with a diameter of 0.04 millimeter is about 89 kilometers long.

The smallest complete deep-drilling installation of Hungarian industry is the geological drilling stick, which is enclosed in a walking stick and contains the most indispensable drilling tools. In addition, small hand-operated drilling tools are manufactured for use in soil exploration.

Another group of equipment includes drilling tools for agricultural and general geological prospecting with square rods measuring 35, 45, or 55 millimeters. Their full weight varies from 50 to 58 kilograms. Digging devices are also produced which serve exclusively geological purposes and have spoon bits of various dimensions with a suitable number of rods. Each set is boxed as a unit.

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